

## ABSTRACT OF THE DISCLOSURE

Electronic signatures and the possibility of encrypting documents are important to secure electronic commerce and communication. This invention provides methods for creating Self-Signing Document Objects (SSDOs) that contain an embedded signature processing program to generate and verify unforgeable electronic signatures, and Self-Encrypting Document Objects (SEDOs) that include within them a cipher management program that includes the decrypting algorithm or a link thereto. The signature verification and decryption processes of the invention use only the standard capabilities of document representation languages (e.g. HTML) that support dynamic content. Accordingly, the SSDOs and SEDOs can be processed by any document representation language that supports dynamic content, for example, by any functional Web browser.